

The University of Chicago

LOGICAL ANALYSIS OF
FICTIONALISM WITH RESPECT
TO THE THEORY OF TRUTH

A PART OF A DISSERTATION SUBMITTED
TO THE FACULTY OF THE DIVISION OF
THE HUMANITIES IN CANDIDACY FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF PHILOSOPHY

1939

By

RICARDO ROQUE PASCUAL

Private Edition, Distributed by
THE UNIVERSITY OF CHICAGO LIBRARIES
CHICAGO, ILLINOIS

Reprinted from
THE PHILIPPINE SOCIAL SCIENCE REVIEW
Vol. XII, No. 1, February, 1940

The University of Chicago

LOGICAL ANALYSIS OF
FICTIONALISM WITH RESPECT
TO THE THEORY OF TRUTH

A PART OF A DISSERTATION SUBMITTED
TO THE FACULTY OF THE DIVISION OF
THE HUMANITIES IN CANDIDACY FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY

DEPARTMENT OF PHILOSOPHY

1939

By
RICARDO ROQUE PASCUAL

Private Edition, Distributed by
THE UNIVERSITY OF CHICAGO LIBRARIES
CHICAGO, ILLINOIS

Reprinted from
THE PHILIPPINE SOCIAL SCIENCE REVIEW
Vol. XII, No. 1, February, 1940



LOGICAL ANALYSIS OF FICTIONALISM WITH RESPECT TO THE THEORY OF TRUTH ¹

RICARDO ROQUE PASCUAL
Department of Philosophy

FICTIONALISM AND THE THEORY OF TRUTH ²

We shall discuss in this paper the relation of Fictionalism ³ to the theory of truth and the logic of Fictionalism. It hardly needs asserting that any theory of knowledge involves some theory of truth and vice versa. For our present purposes Fictionalism will be treated in a general way, indicating, however, the fundamental differences among the three types ⁴ selected for this study. Since the principal thesis of Fictionalism is the question not of truth but of knowledge, it is not surprising that these three types do not offer a very elaborate theory of truth. Nevertheless, realizing probably that no theory of knowledge can avoid facing the problem of truth, the proponents of the three types of Fictionalism give brief exposition of the theory of truth to which their Fictionalisms are to be related. It will also not be surprising to find that they do not have any theory of truth

¹ This paper is a part of a dissertation, being chapters VI and VII in the original, submitted to the faculty of the Division of Humanities in candidacy for the degree of Doctor of Philosophy, Department of Philosophy, University of Chicago, Chicago, Illinois.

² At this place the original thesis bears the notation "Chapter VI" entitled "Fictionalism and the Theory of Truth."

³ "By Fictionalism I shall denote the school of thought which holds that knowledge grows not merely by means of the reception by the senses of certain communicated impulses, vibrations, etc. which results in the formation of precepts but also and largely, if not wholly, by the activity of the mind in forming or constructing out of these formed percepts hypotheses, mental pictures, or logical constructions."

⁴ "The three types of Fictionalism corresponding to common sense, science, and logic, we shall call *Mental Construction*, *Scientific Schematism*, and *Logical Construction*, respectively. As representative exponents of each type we shall choose W. T. Stace, *The Theory of Knowledge and Existence*, for mental construction; E. W. Hobson, *The Domain of Natural Science*, for scientific schematism; and Bertrand Russell, *Our Knowledge of the External World*, *Analysis of Matter*, *Analysis of Mind*, and *Philosophy*, for logical construction."

other than what is current in the literature of the subject, because Fictionalism is an attempt to coordinate as many of the existing beliefs, which are apparently unorganized and contradictory, as possible. We shall discuss the relation of Fictionalism to the theory of truth in the following order: (1) Theory of Truth in Fictionalism and (2) Analysis of Fictionalism's Theory of Truth.

1. *Theory of Truth in Fictionalism*

A Theory of truth resolves itself into two parts, namely: (1) a theory of the nature of truth, including its definition, and (2) a theory of the criterion or criteria of truth, that is, the test of truth. It is needless to discuss the fact that these two problems are interrelated. It is immaterial which of them is attacked first. As a matter of fact any theory of truth centers around these two problems. In the light of these two problems we shall now discuss the theory of truth of Fictionalism and shall take up the different types in the order given.

Let us first make a remark on the meaning of the term *truth*. Our main interest is in the meaning of *truth* which concerns judgments, propositions, or beliefs and not in any metaphysical connotation which has been associated with the term. Thus Stace writes: "The first point to note is the familiar one that truth is a character of judgments the problem of this book, at any rate, is concerned with truth and error as character of judgments, and not with any transcendental Truth with a capital T" ⁵

If *truth* or *falsehood* refer to propositions or judgments, to what kind of propositions or judgments do they apply? Of course this question may be taken to presuppose a definition of truth or falsehood. And yet the definition of truth or falsehood may also be taken to presuppose this question. It is really the fact that in answering one question we are already saying something about the other, which makes the interdependence of the two questions possible. However, we shall pursue the first question before we come to the definition of truth. On this subject Stace writes:

If it is accepted, then, that truth is concerned solely with judgments, the next point is that *all judgments either assert or deny some-*

⁵ Walter Terence Stace, *The Theory of Knowledge and Existence* (Oxford, The Clarendon Press, 1932), p. 417.

thing about particular existence. These existence may be either physical or psychical...But they (judgments) must in the end refer, directly or indirectly, to particular realities. The points of this statement is to eliminate any notion that universal or abstract propositions do not refer to concrete things.⁶

It is obvious from this passage that for Stace the terms *truth* and *falsehood* apply to all kinds of judgments, including universal and abstract propositions. *Truth* and *falsehood* therefore apply not only to propositions of the type, "This is red" but even to abstract propositions such as " $2 + 2 = 4$." ⁷ He speaks of abstractions such as Newton's law of gravitation, and asserts that "it will be equally true of them that their truth or falsity depends upon whether they correctly apply to things in the concrete world."⁸ He anticipates a possible objection that judgments about "Platonic Ideas, forms, or universals" are not about particulars. He says:

The judgment "the Idea of the Good is higher than all other Ideas" might be given as an example. But this is not really an exception. For we are in that case talking about *particular* universals, namely, the Idea of the Good and other particular Ideas.⁹

The conclusion, therefore, is that *truth* and *falsehood* apply to all kinds of judgments because the latter are assertions or denials about "particular existents."¹⁰

The next question to consider is, what is truth? What is this character or property of judgments, propositions, or beliefs? For Stace, truth is the property of correspondence or agreement of the judgment with the fact. He writes: "...every judgment, in order to be true, must in some sense exhibit an 'agreement with the facts.' This is the same as saying that truth is tied by the given."¹¹ In the case of a particular judgment, let us say, "this is red," the proposition is true if "the 'this' is in fact red." Inversely, "If it is not red," he further asserts, "the judgment is false."¹² Further analysis reveals the fact that "this," which in a sense could be taken as a concept, i. e. "concept of the given" in Stace's terminology, is to mean the verbal equivalent of the act of pointing, while "red" is a concept. It

⁶ *Ibid.*, pp 417-18.

⁷ *Ibid.*

⁸ *Ibid.*, p. 419.

⁹ *Ibid.*

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² *Ibid.*

follows that "if we say that the truth of the judgment consists in the application of the right concepts to the facts, or to the percepts, this will mean exactly the same thing as saying that the truth consists in a correspondence between the concept and the percept."¹³

Doubt may creep in regarding the notion of *correspondence* or *agreement*, such that the meaning of correspondence between the judgment of perception and the percept may be questioned. On this point Stace admits:

These conceptions [correspondence and agreement] are ultimate facts of consciousness. They cannot be analyzed into anything simpler (or more learned and elaborate, if that is what is demanded). They cannot be further explained in terms of anything other than themselves.¹⁴

It may be easy to see how correspondence can be established between a judgment of perception and the percept concerned. But it is not easy to understand how the correspondence theory can be accepted when we advance to a higher level of knowledge. From the *concept of the given* let us advance to the *concept of things*. Let us take the case of the judgment, "This is an apple." This means, Stace claims: "If I bite the red patch, I shall experience a certain sweet taste; if I feel it, it will be soft; if I cut it open, it will appear whitish; and so on."¹⁵ In other words, judgments about things are reduced to judgments about percepts, that is, judgments which "apply concepts of the given to the presentation."¹⁶ The judgment is true if the predictions made turn out to be correct, that is, if the "inside of the apple is white, sweet, and so on." Therefore, the truth of the judgment about things is a function of the truth of the individual judgments of perceptions, since the *judgment about things* means the collection of the *judgments about percepts*. This judgment about things is still on the level of judgments made by a single observer without taking account of other observers.

Advancing a little further, let us consider judgments about *constructive existents*, using the language of Stace. For this problem it is important to realize that "a construction is a fiction, a judgment invented by the mind without any foundation

¹³ *Ibid.*, p. 421.

¹⁴ *Ibid.*, p. 420.

¹⁵ *Ibid.*, p. 423.

¹⁶ *Ibid.*

in fact (i.e. in the given)."¹⁷ How then can we distinguish between false constructions and true ones? For Stace *truth* and *falsehood* still apply to judgments about constructions or constructive existents. That truth has something to do with the relation of a judgment with the given still holds in the case of constructions.¹⁸ But truth as *correspondence* between the construction and the given cannot be held, for "the very essence of the construction is that it is not a fact and that no given corresponds to it."¹⁹ How then can we speak of judgments of construction as *true* or *false*?

Constructions are "tied to the given," to use Stace's phrase, in the sense that "if any deductions from them *disagree* with the given, the constructions must be false."²⁰ This is especially true in the case of scientific constructions. In scientific constructions judgments which are not constructive but factual can be deduced from them. Let us take Newton's law of gravitation. Stace claims that the *truth* of such judgments lies in the *correspondence* of concepts with percepts but not the *concepts contained* in the law as such. This means that their truth "lies in their applicability to particular cases."²¹ Newton's law of gravitation is considered a general formula or recipe from which can be drawn particular statements about particular facts of perception. For example: "...we can deduce from it the position of Mars at midnight on 1 January 1950, the times and dates of solar and lunar eclipses or of a transit of Venus, and so on."²² On the truth of such a law and correctness of deductions from it he further states: "The correctness of these deductions consists in the agreement of them with what is actually perceived, i.e. in the correspondence of the concepts with the percepts, and the truth of the law is nothing but the correctness of the deductions made from it."²³ It is clear now that the correspondence involved in the case of the constructions of science is not one between the law and the percepts, but between the concepts into which the law is reduced, or which are deduced from the law, and the appropriate percepts. The case of Stace's

¹⁷ *Ibid.*, p. 429.

¹⁸ *Ibid.*, p. 430.

¹⁹ *Ibid.*

²⁰ *Ibid.*

²¹ *Ibid.*, p. 424.

²² *Ibid.*, 425.

²³ *Ibid.*

constructions is not very different from that of *judgments of things*. Both kinds of judgments, i.e. judgments of things and of constructions, are reduced to judgments of perceptions. In both cases, for Stace, predictions are made and these predictions are matters of perception; hence the concepts used in the predictions are the ones to correspond with the percepts. When predictions turn out to be correct, then the judgment from which they are deduced are considered *true* by Stace.

The case of the unscientific construction is slightly different from that of the scientific construction. Stace maintains that the purpose of a scientific construction is "to explain" actual facts and to predict future ones.²⁴ On the other hand, the construction which is not that of science is made for "reasons of convenience."²⁵ However, in all kinds of constructions, Stace maintains that the relationship between them and the given is expressed by saying that "if any deduction from a construction clashes with the given, that construction is invalid."²⁶ In other words, the constructions of science and of common sense must not yield deductions which contradict the given. Furthermore, all constructions must obey the laws of logic. This means, for Stace, that a construction "must be consistent with the system of truths into which it is sought to embody it."²⁷ It is obvious that where the construction in question is considered by itself, it is neither logical nor illogical in the above sense. In this case, it obeys the laws of logic if it is self-consistent.

Due to the fact that it is possible to invent "fanciful figments of the imagination which would be logically feasible and also not clash with any known facts,"²⁸ Stace imposes another condition which must be fulfilled by constructions, namely, they must be "necessary for the purposes of knowledge."²⁹ By "necessary" is meant "what is required."³⁰ It is what is needed for the "purpose of knowledge." By "purpose of knowledge" is meant the desire for simplicity and convenience in the understanding of the world.³¹ In the beginning this purpose of knowledge is

²⁴ *Ibid.*, p. 431.

²⁵ *Ibid.*

²⁶ *Ibid.*

²⁷ *Ibid.*, p. 430.

²⁸ *Ibid.*, p. 432.

²⁹ *Ibid.*

³⁰ *Ibid.*, p. 434.

³¹ *Ibid.*, p. 435.

governed by practical considerations. Later, curiosity is aroused and knowledge is pursued for its own sake. But convenience and simplicity still govern the making of constructions.³²

Let us now consider the Scientific Fictionalism of Hobson. Hobson does not treat of the subject in the same outspoken manner as Stace. He does not provide for the niceties of distinction as to the meaning of truth. He does not treat of the truth or falsity of judgments of perceptions or of judgments of things. Let us observe, however, that Hobson speaks of the perceptual experience as the starting point of Science. I think it will not be objectionable to assert that he would agree with Stace's application of the word *truth* to judgments of perceptions. But one cannot conclude from his writings whether he would agree with Stace's application of truth to all judgments short of scientific hypothesis, for example, judgments about things. Were he treating of judgments about things, he probably would reduce such judgments to judgments of perceptions. Note that, for Hobson, that is for Scientific Schematism, it is sufficient to regard a perceptual object as a construct of sense-impressions.³³ Furthermore he says, "What we call a material object is *prima facie* a construct, built up by the synthesis of a group of actual sense-impressions, and of images of earlier sense-impressions stored up in memory."³⁴ In other words, like Stace, Hobson would probably maintain that judgments about things are true if the judgments of perceptions to which the former are reduced are true.

On the application of *truth* or *falsehood* to scientific theories or hypotheses I think Hobson differs from Stace. There is a tacit objection in the mind of Hobson to applying truth or falsehood to scientific theories. He writes:

The truth or the falsehood of a scientific theory is often spoken of in a manner which obscures the real nature of such theories.... Thus it is in possessing greater range and accuracy in its power of description, and not in what should properly be described as its truth, unless truth be understood to mean degree of applicability, that Einstein's theory will be regarded as superior to that of Newton.³⁵

³² *Ibid.*

³³ Ernest William Hobson, *The Domain of Natural Science* (Cambridge, England, The University Press, 1926), p. 53.

³⁴ *Ibid.*

³⁵ *Ibid.*, p. 47.

From this quotation it is evident that he does not apply the terms *truth* or *falsehood* to scientific hypotheses or abstractions. His position would therefore be unlike that of Stace in so far as abstractions are not matters which may be called true or false. Of course, he makes an exception to this assertion, on the ground that truth may be defined as the "degree of applicability [of a theory]." This definition is so wide that it will include propositions which are not commonly spoken of as true, consequently such an exception cannot be taken very seriously.

On the question of constructions, that is "schematic scientific descriptions," to use Hobson's phrase, he does not speak of truth or falsehood. Let us observe that an hypothesis or theory is for him a schematic description of science. In the acceptance of such schematic descriptions he claims that there is a certain "reasonable degree of simplicity presupposed."³⁶ Then there is a requirement of "applicability in relation to physical phenomena."³⁷ On this requirement, Hobson writes: "The most crucial test of applicability of a scientific theory is that it should enable us actually to predict the results of experiments or observations of sequences of phenomena, under conditions consistent with the scope of the theory, which are made subsequently to the constitution of the theory."³⁸ The meaning of the above requirement reduces itself to the matter of verification. In other words a scientific hypothesis must be verifiable. The verification of the hypothesis affords an occasion to estimate the validity of the hypothesis. Here Hobson speaks of the validity of the hypothesis, which in the following discussion, may be translated as the probability of the hypothesis. He writes:

The value and the range of validity of the particular conceptual scheme have to be estimated by its actual success in the fulfilment of this function of prediction. Thus a scientific theory, considered as an hypothesis, not as a dogma, must be judged by a comparison of its consequences with perceptual fact; and especially by its power of forecasting the occurrence of hitherto unknown or unobserved facts, when, by more minute observation, or by artificial production of experimental tests, the occasion for such comparison arises.³⁹

Again, we find that the hypothesis is reduced to statements of perceptions which are to be confirmed. Since the theory is not

³⁶ *Ibid.*, p. 171; also pp. 45-46.

³⁷ *Ibid.*, p. 45.

³⁸ *Ibid.*, p. 46.

³⁹ *Ibid.*, p. 31.

simply about actual perceptions but about all possible perceptions, for herein lies its predictive power, and we cannot exhaust all possible perceptions, the so-called validity of the theory becomes its probability calculated on the basis of verified judgments of perceptions. This is Hobson's theory of truth, or what is equivalent to it, in the field of science.

Let us now consider Russell's theory of truth in his Fictionalism. He would certainly agree with the assertion that truth and falsehood, which are our present problems, are connected with judgments or beliefs. He writes, "Just as words are characterised by meaning, so beliefs are characterised by truth or falsehood."⁴⁰ Furthermore, "*Prima facie*," he writes elsewhere, "'true' and 'false' apply to statements, whether in speech or in writing. By extension, they are supposed to apply to the beliefs expressed in those statements, and also to hypotheses which are entertained without being believed or disbelieved."⁴¹ He defines a belief, interpreted narrowly, as "a form of words related to an emotion of one of several kinds,"⁴² while broadly interpreted, it is "merely a characteristic of a string of actions."⁴³ We can multiply citations from the works⁴⁴ of Russell and they will all amount to the same assertion, namely, that truth and falsehood (or error, as he sometimes puts it) are characters or properties which refer to propositions, judgments, or belief. (Whether or not they also refer to hypotheses or theories we shall investigate later.)

While for Stace, as we have seen, truth is applied to all kinds of judgments, for Russell truth and falsehood (of elementary kind) are applied only to elementary propositions. To understand truth as applied to particular or elementary judgments, we must introduce the facts of perception. The universe, asserts Russell, consists of objects which have various qualities and stand in various relations with each other.⁴⁵ Among these

⁴⁰ Bertrand Russell, *The Analysis of Mind* (New York, The Macmillan Co., 1921), p. 231.

⁴¹ Bertrand Russell, *Philosophy* (New York, W. W. Norton & Co., 1927), p. 254.

⁴² *Ibid.*, p. 259.

⁴³ *Ibid.*, p. 261.

⁴⁴ See A. N. Whitehead and Bertrand Russell, *Principia Mathematica* (Cambridge, University Press, 1910-1913), v. 1, p. 46; *Analysis of Mind*, chap. xiii; *Philosophy*, chap. xxiv; Bertrand Russell, *Our Knowledge of the External World* (New York, W. W. Norton & Co., 1929), pp. 110-11.

⁴⁵ *Principia Mathematica*, v. 1, p. 45.

objects are those which are complex. A complex object consists of interrelated parts. To explain what he means by a judgment of perception, Russell writes:

Let us consider a complex object composed of two parts *a* and *b* standing to each other in the relation *R*. The complex object "*a*-in-the-relation-*R*-to-*b*" may be capable of being *perceived*; when perceived, it is perceived as one object. Attention may show that it is complex; we then *judge* that *a* and *b* stand in the relation *R*. Such a judgment, being derived from perception by mere attention, may be called a "judgment of perception."⁴⁶

Judgments of this kind are called elementary judgments. Elementary judgments, of which judgments of perceptions are one type, are those whose "subjects are always particular and definite."⁴⁷ The truth which applies to this kind of judgments is called "elementary truth."⁴⁸

In *Principia Mathematica*, elementary propositions and propositions resulting from their combinations are called "elementary."⁴⁹ Thus propositions of disjunction, implication, or conjunction of elementary propositions are "elementary." Propositions which are considered "elementary" in *Principia Mathematica* later become divided into "atomic" and molecular" in *Our Knowledge of the External World*. Thus Russell writes in the latter work:

A proposition which expresses what we have called a fact, i.e. which, when asserted, asserts that a certain thing has a certain quality, or that certain things have a certain relation, will be called an atomic proposition, because, as we shall see immediately, there are other propositions into which atomic propositions enter in a way analogous to that in which atoms enter into molecules...

...It follows that, if atomic facts are to be known at all, some at least must be known without inference. The atomic facts which we come to know in this way are the facts of sense-perception;...⁵⁰

"'Molecular' propositions are such as contain conjunctions—*if*, *or*, *and*, *unless*, etc.—and such words are the marks of a molecular proposition."⁵¹ They are called molecular propositions because "they contain other propositions which you may call their

⁴⁶ *Ibid.*

⁴⁷ *Ibid.*, p. 47.

⁴⁸ *Ibid.*, p. 48.

⁴⁹ *Ibid.*, p. 96.

⁵⁰ *Our Knowledge of the External World*, pp. 52-53.

⁵¹ *Ibid.*, p. 54.

atoms.”⁵² Atomic propositions therefore enter into molecular propositions.

Let us now enter into a discussion of the meaning of *truth* for Russell, in order to make the distinction in the meanings applied to the term when it refers to atomic propositions and to molecular propositions, respectively. The correspondence theory of truth can very well be admitted in the case of elementary truth, that is to say, truth concerning atomic propositions or judgments. Russell writes:

In fact, we may define truth, where such judgments are concerned [meaning, elementary judgments of the atomic type], as consisting in the fact that there is a complex *corresponding* to the discursive thought which is the judgment. That is, when we judge “*a* has the relation *R* to *b*,” our judgment is said to be true when there is a complex “*a*-in-the-relation-*R*-to *b*,” and is said to be false when this is not the case.⁵³

Elsewhere he writes, “What is required is a formal expression of the fact that a proposition is true when it points towards its objective, and false when it points away from it.”⁵⁴ This means, “We may say, metaphorically, that when today is Tuesday, your belief that it is Tuesday points *towards* the fact, whereas when today is not Tuesday your belief points *away from* the fact.”⁵⁵ Furthermore he says, “Thus in this unusually simple case we can say that a true proposition ‘corresponds’ to its objective in a formal sense in which a false proposition does not.”^{55a} Further complications of this theory of correspondence are possible, so Russell admits; but for the present we are not concerned with them.

Speaking of the truth of a molecular proposition, Russell claims that it does not require for its truth that all the constituent atomic propositions should be true or that they should be asserted or denied. The truth or falsehood of molecular propositions is not on the same level as that of atomic propositions.⁵⁶ A molecular proposition of the implicative type depends only “upon the second [atomic proposition] being inferable from

⁵² “The Philosophy of Logical Atomism,” *Monist*, 1918-1919, p. 37.

⁵³ *Principia Mathematica*, v. 1, p. 46.

⁵⁴ *The Analysis of Mind*, p. 273.

⁵⁵ *Ibid.*, p. 272.

^{55a} *Ibid.*, p. 274.

⁵⁶ *Our Knowledge of the External World*, p. 54.

the first [atomic proposition].”⁵⁷ When Russell speaks of the truth of molecular propositions he does not mean the “correspondence” of such propositions to what may be designated as a “molecular fact,” because he warns us not to look “about the real world for an object which we can call ‘or’ and say, ‘Now look at this. This is “or.”’”⁵⁸ This means that there are no molecular facts. But the truth of molecular propositions is a function of the truth of the atomic propositions⁵⁹ and of the notions of their logical connection or relation. How this is determined has not been definitely stated. In other words, the “truth” of molecular propositions may have a logical meaning which is entirely different from the epistemological meaning given to the “truth” of atomic propositions.

There is still another kind of propositions from which elementary propositions must be distinguished. This proposition is called “general proposition.” A general proposition is the proposition resulting when a propositional function with, let us say, one variable x , is asserted for all values of x . Thus the propositional function, “If x is human, x is mortal” becomes the proposition, “For all values of x , if x is human, x is mortal,” that is, “All men are mortal.” It is needless to repeat here the discussion that the general proposition “All men are mortal” comprehends such particular judgments as “Socrates is man and mortal,” “Plato is man and mortal” and the like—which are all molecular propositions. What must be definitely emphasized here is the fact that the meaning of truth as applied to this general proposition is different from that applied to an elementary proposition. The truth of a general judgment is called “truth of second order” or “second order truth.”⁶⁰ Distinguishing it from elementary truth, which he defines as correspondence with the facts of perception, Russell defines “second order truth” thus: “If we express the proposition ‘all men are mortal’ in the form ‘ (x) . x is mortal, where x is a man’ and call this judgment p , then ‘ p is true’ must be taken to mean ‘ p has second order truth’ which in turn means ‘ (x) . “ x is mortal” has elementary truth, where x is a man.’”⁶¹ It is obvious that such a definition of

⁵⁷ *Ibid.*

⁵⁸ “Philosophy of Logical Atomism,” *op. cit.*, p. 40.

⁵⁹ *Ibid.*

⁶⁰ *Principia Mathematica*, v. 1, p. 48.

⁶¹ *Ibid.*

"second order truth" applies to a general judgment such as "all men are mortal," the "truth" of which depends upon the truth of such elementary propositions as "Socrates is man and mortal," or "Plato is a man and mortal," etc. It is obvious that a general proposition is a class of all such elementary propositions.

It is now clear that there are two types of general propositions, one a class of "atomic propositions" and another a class of "molecular propositions." The general proposition reducible to atomic propositions is of the form " $(x). x$ is a man," where " x is a man" is an atomic propositional function which gives rise to an atomic proposition as soon as the value of " x " is determined. The second order truth of this type of general propositions is a function of the *elementary truth* of the atomic propositions to which it is reducible. In this case, "generalized atomic propositions," as we shall call this type of general propositions, resolve into two kinds, namely the atomic general propositions which are completely reducible to their atomic propositions, which we shall call enumerative, and the atomic general propositions which are not completely reducible to their atomic propositions, which we shall call genuine universals. On the other hand, the general proposition reducible to molecular propositions is of the form " $(x). \text{ If } x \text{ is a man, then } x \text{ is mortal}$ " (and other combinations of atomic propositions), where "If x is a man, then x is mortal" is a molecular propositional function which gives rise to a molecular proposition as soon as the value of " x " is determined. The *second order truth* of this type of general propositions is a function of the *elementary truth* of the molecular propositions to which it is reducible. In this case "generalized molecular propositions," like generalized atomic propositions, divide into two kinds, namely the molecular general propositions which are completely reducible to their molecular propositions, which we shall also call enumerative, and the molecular general propositions which are not completely reducible to their molecular propositions, which we shall call genuine universals. From this it follows that the "second order truth" of enumerative general propositions of both types is completely determinable because they are completely reducible to their component propositions, whereas the "second order truth" of genuine universals of both types is incompletely determinable because they are not completely reducible to their component judgments.

From the above discussion it follows that a judgment of things in Stace's terminology is in Russell's terms a judgment of a construct of all percepts of one mind which are correlated according to certain principles of construction. A "thing" on this level of knowledge, i.e. solipsistic, is to be understood as a "class of all actual percepts." It is obvious that a "class of all actual percepts" of one mind depends upon the *percepts actually experienced* by that perceiver. Therefore, observing the fact that a class is not an entity which is "out there" in the *external world*, we can say that a class is not something with which a judgment can correspond. What then shall we say of a *judgment about things*, which turns out to be a *judgment about a class*? It must obviously have a "second order truth." In other words, the meaning of the judgment of a class of all actual percepts is a function of the meaning of elementary judgments about percepts of which the said class is composed. This interpretation of a judgment of things is equivalent to the interpretation of Stace. The only difference is that Russell distinguishes between "elementary truth" and "second order truth" while Stace stretches the meaning of "correspondence" in such a way that it may be considered equivalent to what Russell calls "second order truth."

Let us call the *judgment of things*, i.e., the judgment of a class of percepts of one observer, a construction of the first type. The class of all possible percepts is a third level construction, since it includes percepts which are unperceived. The second level construction involves only the class of all actual percepts of all actual observers. In passing from the first level construction to a higher level, the process of construction has already involved a process called inference. It is therefore important for us to tarry for a while at this point in order to avoid any possible misapprehension of this important word, "inference."

In contrasting the method of *construction* with the method of *inference*, Russell writes: "In the philosophy of mental occurrences there are also opportunities for the application of our principle of constructions versus inferences."⁶² In this context he always associates the method of inference with "entities with neat logical properties [which] are always inferred."⁶³ Again, he writes, "One form in which common sense makes this infer-

⁶² *Contemporary British Philosophy*, First Series, p. 366.

⁶³ *Ibid.*, p. 362.

ence is that of a belief that objects which have been perceived still exist when they are not perceived.”⁶⁴ In this context “inference” means the method by which this belief is arrived at. Thus we find that the method of inference arrives at propositions which are not completely reducible to judgments of perceptions. On the other hand, the method of construction means the substitution of a form of propositions which is completely reducible to its component judgments of perceptions. It is for this reason that the minds of other people, their percepts, the unperceived entity are all inferred, whereas the “perceptual object” being reducible to perceptual judgments is a construct. It is then in the sense of introducing something not completely reducible to perceptual judgments that inference is used in some very high types of construction. The results of inference, in this case, are used together with perceptual facts as materials for wider construction.

At the second level of construction, the first construction is widened by the introduction of the *percepts of other people*. The percepts of others are arrived at by analogical inference from our own. Other people’s minds are also inferred by analogy. If the “thing” is now defined as a “class of actually perceived percepts of all perceivers” then its meaning reduces to the individual percepts which are members of the said class. Judgments about such a “thing,” as before, would be reduced to judgments of perceptions not of one observer but of all observers. Now, since the inference as to the percepts of other people is analogical, it has only a probability character. The probability character of other people’s percepts, used in this construction, is the source of the probability character of the judgment about a class of percepts which includes the percepts of other people. In this case, the elementary judgments of perception are of a mixed kind. The elementary judgments of perception of the solipsist would have elementary truth, while the elementary judgment of perception of other people would have only a probability character from the point of view of the solipsist. Therefore, the second order truth of the judgment about this class of percepts would not have the same character as the “second order truth” of the judgment about the “class of actual percepts of one

⁶⁴ Bertrand Russell, *The Analysis of Matter* (New York, Harcourt, Brace & Company, 1927), p. 191.

observer." If labeling will help us any, I think we can, to preserve continuity, apply "third order truth" to this construction. If this construction is extended so as to include the *possible perspectives*, that is, where no observer is involved, "probability" (as distinguished from truth) must be introduced because "unperceived percepts" are merely probable and products of analogical inference.

This brings us to the question of the "probability" of induction or of inference. The notion of verification is tied up with the notion of induction. In one instance, when referring to verification, Russell speaks of the "probability of truth" being increased by "relative criteria."⁶⁵ On another occasion, he speaks of the probability of a proposition. He says:

A proposition does not have a definite probability on its own account; in itself, it is merely true or false. But it has probability of different amounts in regard to different premises. When we speak, elliptically, of the probability of a proposition, we mean its probability in relation to all our relevant knowledge.⁶⁶

The probability of a proposition concerns the relation of the proposition to a set of other propositions which are its premises. The logical problem of induction involves the probability of the induction.⁶⁸ Following Mr. Keynes, Russell holds that "an induction may be rendered more probable by number of instances, not because of their mere number, but because of the probability, if the instances are very numerous, that they will have nothing in common except the characteristics in question."⁶⁹ The instances which give probability to an induction are matters of verification. Verification may be defined in this way: "When an image accompanied by an expectation-belief is thus succeeded by a sensation which is the 'meaning' of the image, we say that the expectation-belief has been verified."⁷⁰ More generally, Russell writes:

If the occurrence, when it comes, gives us the feeling of expectedness, and if the expectation, beforehand, enabled us to act in a way which proves appropriate to the occurrence, that must be held to constitute the maximum of verification. We first have an expectation, then a sensation with the feeling of expectedness related to memory

⁶⁵ *The Analysis of Mind*, p. 269.

⁶⁶ *Philosophy*, p. 274.

⁶⁷ *Ibid.*

⁶⁸ *Ibid.*, p. 269.

⁶⁹ *Ibid.*, p. 270.

⁷⁰ *The Analysis of Mind*, p. 269.

of the expectation. This whole experience, when it occurs, may be defined as verification, and as constituting the truth of expectation.⁷¹

Scientific verification is of the above sort. A scientific hypothesis is varified by first deducing consequences from the hypothesis as to the future and confirming them by later experiments.⁷²

For Russell, therefore, logical constructions are of two sorts. For the first type of construction, we can speak of "second order truth"; for the second and more general types of constructions, we have to speak of "probability," since induction is already involved in them.

Speaking of logical consistency, for Russell the laws of logic are among the data of knowledge.⁷³ Coherence, however, is assumed by Russell to be insufficient as a definition of truth.⁷⁴ Though insufficient, consistency is a necessary requisite. Self-consistency is demanded of all constructions and propositions.⁷⁵

The results of our discussion may be put thus:

A. Essential prerequisites of Truth:

- I. Truth applies only to propositions, beliefs, or judgments.
- II. Self-consistency within the proposition and consistency within a system of propositions are required.

B. Variations in the meaning of "truth" as applied to the different types of judgments.

- I. "Truth" as applied to "atomic" propositions, i.e. judgments of perceptions, means correspondence between the judgment and the percept. "Truth" of "molecular" propositions is a function of their "atomic" propositions and their logical connections. Thus, on the level of atomic propositions Stace claims that the judgment "this is red" is true if "the 'this' is in fact red." On the level of "molecular" propositions he asserts that the judgment "If I bite the red patch ("apple"), I shall experience a certain sweet taste; if I feel it, it will be soft; etc." is true if the "predictions made turn out to be correct, that is if the inside of the apple is white, sweet, and so on."⁷⁶ Hobson is silent on this point; but we

⁷¹ *Ibid.*, p. 270.

⁷² *Ibid.*

⁷³ *Our knowledge of the External World*, p. 72.

⁷⁴ *The Analysis of Mind*, p. 268.

⁷⁵ *Principia Mathematica*, v. 1, p. 97.

⁷⁶ *Supra.*

have indicated that it is not objectionable to say that he would agree with the above usage. Russell gives the example, "when we judge '*a* has the relation *R* to *b*' our judgment is said to be true when there is a complex '*a*-in-the-relation-*R*-to-*b*'..." "for atomic" propositions. Russell's example of a molecular proposition is "if it rains, I shall bring my umbrella," the truth of which depends upon the "second being inferable from the first."⁷⁷

- II. "Truth" as applied to constructs reducible to their elementary propositions means "second order truth," i.e. the "second order truth" of the constructs is reducible to "truth" of the elementary propositions to which the constructs are reduced. If the reduction is complete then the "second order truth" of the construct is completely determinable, but when the reduction is not complete the "second order truth" of the construct is incompletely determinable. Under this heading we have two kinds of constructs, namely, (a) general propositions, reducible to their elementary propositions, and (b) *propositions about things* (for a given observer), reducible to elementary judgments about the percept-members of the class which is the *thing*. Stace's judgment of things from the solipsistic point of view, Russell's judgment of constructs belonging to one mind, i.e. judgments about "private worlds" in his terminology, and Hobson's judgments about "perceptual objects" come under this heading. Furthermore, Hobson speaks of the classificatory concepts as having been arrived at by the process of classification in the field of science; such concepts fall under this heading, too.
- III. "Truth" as applied to inductive inferences means "probability." Stace's inference to the minds of others and Russell's inference as to the percepts of others certainly belong under this heading. Hobson, who calls hypotheses and theories constructs, applies probability to them. For him classificatory concepts differ from hypotheses and theories. He, however, confuses constructs and inference in his application of "probability."

⁷⁷ *Our knowledge of the External World*, p. 54.

IV. "Truth" as involving I, II, and III will take a meaning which is reducible to the above meanings. As we have shown above some constructs employ not only perceptual judgments but also inferences and lower types of constructs. In this case the "truth" of this higher type of constructs is reducible to the truth of the judgments to which it is reduced. Russell's external world and Stace's public world both fall under this heading. Some very speculative hypotheses like "Relativity," which Hobson mentions, will come under here, too. For this type of "truth" I propose the term "pragmaticality" in order to comprehend the sense of "probability, comprehensibility, applicability or serviceability, verifiability," etc.

Our retention of the word "truth" throughout is for purposes of continuity in the presentation of the theory of truth involved in Fictionalism.

2. *Critical Analysis of Fictionalism's Theory of Truth*

The essential prerequisites of "truth" must be granted. "Truth" and "falsehood" must apply to propositions, judgments, or beliefs. This must be adhered to if we want to avoid any unnecessary metaphysical entanglements. That consistency within a system of propositions and self-consistency within the proposition or judgment are necessary though insufficient requirements of all "true" propositions cannot be gainsaid. Let us pass on to the next point.

The first meaning of "truth" is correspondence between the judgments and the percepts. The second part of this meaning is: "'falsehood' consists in the non-conformity of the judgments to the percept." If the correspondence is between the judgment of perception and the facts of perception, how then is it possible to explain error or falsity in such judgments? If a person claims that he perceives a certain patch of color, say red, how can he have a false judgment of such a perception? Obviously, his judgment will be false if he asserts that he perceives green when in fact he is perceiving red. But the possibility of a false judgment at this level requires that the person *willfully* assert a wrong judgment because whatever he perceives cannot be false if rendered in its verbal equivalent. There is no way of finding out whether a man is judging falsely or truly. Whether or not he is judging falsely will depend upon the man judging, since

obviously his percepts are his and no one else can perceive them. Therefore, the assumption that a man *willfully judges differently from what he perceives* must be made in order to have false judgments. But this assumption cannot be taken seriously because it make a dishonest person of anyone who makes a false judgment, whereas false judgments may be made in good faith without any intention to deceive either other persons or oneself. It is therefore gratuitous to assume that a person wilfully judges wrongly, i.e. differently from what he perceives, only to make false judgments. Therefore, either judgments of perception are all true, or false judgments of perception will not be as genuinely made as are true ones.

It may be contended that there is a definition of a false judgment of perception which will admit of its possibility, namely that it is a judgment composed of concepts of the given and asserting a relation among them when in fact there is no complex in the percept with which the judgment corresponds. Let us analyze this further. If the judgment is made in advance of a perception and later percepts do not confirm it, then this is a case of verification and not of simple truth or falsehood. In this case, the judgment made in advance of perception is a sort of hypothesis which is to be confirmed by subsequent perceptions, and in each case of subsequent perceptions the hypothesis is either confirmed or not confirmed. Since the total number of perceptions required to complete the confirmation is infinite then such a judgment is only more or less probable and not true or false. In short, a false judgment will not be a judgment of perception at all but a construct or an inference involving induction.

There is, however, a sense in which this theory of truth is valuable in the definition of true judgments. It is true that at this level of judgments "truth" must mean "correspondence to facts of perception." This theory avoids the arbitrariness of other theories, because there is something in it which is not arbitrary, namely the percept. This virtue of the theory can be saved if no false judgments are admitted at this level, for the false judgments lead to the gratuitous assumption mentioned above. In fact, I do not see the necessity of admitting false judgments of perception since the theory of Fictionalism holds that all percepts are real whether they are in dreams or in waking life. Therefore, if errors or false judgments are made, they

are made at a higher level and are made not about the percepts themselves but about interpretations or constructions from them. There are no illusions of the senses, meaning by this phrase "mistaken perceptions."⁷⁸ Illusions, however, can be explained to occur not at this level but at a higher level of judgments. According to Stace, illusions can occur "when we interpret a presentation wrongly, i.e. when we apply to it the wrong concept of things. I see a faint object in the distance, and take it for a man. On going nearer I find that it is a tree stump."⁷⁹ Illusions occur not in the wrong application of a concept to a percept but in the interpretation given to the percept. In other words there is already an element of construction or inference involved in the occurrence of *illusions of the senses*. But at the level of judgments of perception such elements of construction or inference are supposedly absent. Therefore, illusions of the senses are not cases of false judgments of perceptions.

The difficulty of correspondence we shall pass over, since, as Stace admits, this notion is rock bottom. It is indefinable in the Fictionalism of Stace; for Russell it is also indefinable; and, I think, for Hobson it may also be taken as indefinable. Correspondence, moreover, will be an individual affair since it concerns the judgments and percepts which are individual and private.

In the case of general propositions, the terminology of Russell, "second order truth," is preferable to Stace's "truth." Though Stace uses the term "truth" he, nevertheless, does not mean "correspondence," as in the case of judgments of perceptions, but what Russell means by his "second order truth." The question now is, is it possible to have false general propositions? The falsity of a general proposition is a function of the falsity of the component propositions. If general propositions are reducible to elementary propositions then a false general proposition would mean a class in which at least one of the members is a false elementary proposition. Elementary propositions are composed of atomic propositions and molecular propositions, and it has been shown that there are two kinds of general propositions, namely one which is reducible to a class of elementary atomic propositions and another which is reducible to a class of

⁷⁸ Bertrand Russell, *Our Knowledge of the External World*, p. 85; Walter Terence Stace, *op. cit.*, p. 423.

⁷⁹ Walter Terrence Stace, *op. cit.*, p. 423.

elementary molecular propositions. In the case of the first kind of general propositions, the members of which are atomic propositions, it is not possible to have a false general proposition because no atomic proposition of perception is false. In the case of the second kind of general propositions, the members of which are molecular propositions, the falsity of the general molecular proposition is a function of the falsity of the component molecular propositions to which the generalized molecular proposition is reducible.

Russell's judgments of first constructions fall under the general propositions composed of atomic judgments and, more specifically, judgments of perception. Moreover, the judgments of first constructions demonstrate more clearly the impossibility of having false judgments of first constructions. If a construction of the first level is defined as a "class of actual percepts" then it is obvious that each member of this class is existent, that is each judgment of perception has an elementary truth. Therefore, it follows that all constructions of this kind will have only actual percepts for their members and judgments about these constructions will have "second order truth" and none will have "second order falsehood." Stace's constructions of things whose meaning is reducible to a number of propositions of the form "if. . . . then. . . .", where the "if. . . . then. . . ." are the verifiable molecular propositions to which the judgment about things is reduced, come under the type of generalized molecular propositions and have "second order truth" or "second order falsehood" derived from the truth or falsehood of the relevant molecular propositions. The case of unverifiable "if. . . . then. . . ." molecular judgments is one whose truth cannot be determined. Stace calls this kind of unverifiable constructs "alternative truths," that is contradictory propositions, the assertion of either one of which will not make any difference to the truth of the verifiable judgments.⁸⁰ I think the introduction of unverifiable constructs is unnecessary for the construction of the "external world." Moreover, to call them "alternative truths," where "truth" has previously been defined to mean "correspondence" of a judgment with the percepts, is to risk confusion of thought. To do this is only an unflinching loyalty to common-

⁸⁰ Walter Terrence Stace, *op. cit.*, pp. 105-106.

sense points of view even when analysis has proved them untenable.

In the case of judgments involving constructions beyond this level, the question is reduced to one of probability. I think it is objectionable to apply the terms *truth* or *falsity* to constructions at this higher level, as Stace does, because the meaning of "truth" no longer involves correspondence between what is held to be true, i.e. the construction, and the perceptual counterpart. In fact, the way Stace puts this qualification, namely, "that no implication from it must contradict the given" is in a negative form. It does not utilize the correspondence of the true elementary propositions. The best way would be to say, "all implications or deductions from it must be confirmed by the given." In this form, I think, the condition to be met by a probable construction would be unobjectionable both to Russell and to Hobson. We have shown that the probability character of a construction involving inference is due to the probable nature of inference. In this case, what is pertinent is not the *truth* or *falsity* of a construction involving inferred entity (like the percepts of other people, the minds of others) but its *probability*. Even this term is objectionable seeing that it has already been applied to inference. We can apply the words "applicability" or "serviceability," or, as we suggested on page 19, if we choose to coin a new word to comprehend "applicability, serviceability, economy, epistemological necessity, i.e. necessity for epistemological purposes, etc." we can apply the word "pragmaticality" to a construction involving inferred entities.

LOGIC OF FICTIONALISM ⁸¹

We are now in a position to discuss the merits of the theory of Fictionalism, which we shall divide into the following aspects: (1) Is Fictionalism an Inference or a Construct? (2) Formal Aspects of Fictionalism. (3) The Implications of Fictionalism which we shall divide into (a) Unproved Assumptions and (b) Verifiable Implications.

1. *Is Fictionalism an Inference or a Construct?*

This question must be asked in the discussion of the logic of Fictionalism, in order that we may be able to determine in

⁸¹ At this place the original thesis bears the notation "Chapter VII" entitled "Conclusion."

what sense Fictionalism is "true," in our *hierarchy of truths*. Obviously enough, Fictionalism is not a perceptual judgment like a simple judgment of perceptions. In that case it is not true in the sense of "conforming" with the facts of perception.

Is Fictionalism an inference? Is it a theory in Russell's terminology? We have seen that inference assumes entities which must have some existence in reality. That is why when Fictionalism itself infers the percepts or the minds of other people, the other people's percepts and minds must have an existence of their own and apart from the individual making the inference. If Fictionalism is an inference then it must arrive at entities whose existence must be assumed since they cannot be verified. This is where inference differs from constructs. Now, the question is, "What is the inferred entity which Fictionalism would arrive at, if it were an inference?" The most logical way is to look for this inferred entity in the body of truths which Fictionalism expresses in its principles. Now, it is awkward to suppose that there is some super-mundane or logical entity called "Fictionalism" which the theory must assume if it is taken as an inference. No doubt the logical and thorough-going Fictionalist will have to admit this uncomfortable position if he starts out with the assertion that Fictionalism is an inference. But since Fictionalism plays favorite with Occam's razor, a very convenient methodological principle which Stace thinks is also a principle of reality, it is unlikely that a Fictionalist would admit that Fictionalism is an inference. Why then should Fictionalism admit that there is an inferred entity called "Fictionalism" by calling this theory an inference? If a Fictionalist is a thorough-going one and starts out with the premise that Fictionalism is an inference he will have to admit the inferred entity called "Fictionalism," but a more thorough-going Fictionalist would not start with the premise that Fictionalism is an inference because by so doing he would be multiplying "entities" beyond necessity. If Fictionalism is correct, then its obvious lesson is that there is no necessity for many of the inferred "entities" of common sense; that is why Fictionalism wants to substitute constructs for these. Therefore, that Fictionalism is an inference can now be dismissed.

Is Fictionalism a construct? If so, what kind of a construct? It seems obvious that if Fictionalism is not a perceptual judgment or an inference, then it must be a construct. Is

it a construct of the first type, which uses no inference? Is Fictionalism then a general proposition reducible to elementary propositions? This question asks whether Fictionalism is a general proposition whose *secondary truth* is derived from the *elementary truth* of the elementary propositions to which it is reducible. Obviously enough, Fictionalism is not a general proposition of this type, that is to say, it is not a collection of judgments of perceptions. We can therefore say that Fictionalism is neither "true" nor "false" in the correspondence sense of the terms. Neither can we speak of Fictionalism as having "second order truth" or "second order falsehood."

From the discussion of how Fictionalism tries to arrive at the "external world," obviously its principal problem, it uses the inference as to other people's percepts and minds. Fictionalism therefore must be a construct of the higher type. It is for this reason that the results of Fictionalism partake of the nature of probability due to the probability character of the inferences involved.

If Fictionalism is a construct of the type which uses inference, then it is logical to attribute some element of probability to it due to this inferential portion. Since the inferential portion of Fictionalism is given an important function in the theory, all deductions from this probable portion will partake of this character of probability. Therefore, it will not be objectionable to ask, "Is Fictionalism probable?" Fictionalism is probable if: (1) its implications are consistent, (2) its implications (pre-suppositions or unproved assumptions) are plausible, and (3) if its implications (verifiable consequences) are verified. The determination of the status of Fictionalism with regard to these problems will be the subject of our subsequent sections. If Fictionalism is "probable" in the above sense then it is also "pragmatical" as we have defined this term.

2. *Formal Aspects of Fictionalism*

In this section we are to follow the form of reasoning which Fictionalism adopts in arriving at its thesis. Then we shall investigate whether or not Fictionalism contradicts itself.

Fictionalism takes for its data the facts of perception abstracted from the sophisticated interpretation in which human beings have enshrouded them. With the facts of perception,

i.e. the percepts, as its starting point it proceeds to explain how knowledge of the external world grows. It is, I think, at this point that the process of reasoning of Fictionalism manifests a logical flaw. It appears to be a *petitio principii*. We shall proceed to demonstrate this contention.

Both Stace and Russell contend that the inference as to the existence of other minds is necessary for the establishment of knowledge of the external world. I do not know whether Hobson's position is equally assailable on this point, because he does not treat of this matter. In other words, knowledge of the external world presupposes knowledge of the existence of other minds. The knowledge of the existence of other minds is arrived at through inference by analogy from the knowledge of the groups of presentations, later called "bodies." The objection, I think, to this method of reasoning is logical. First, nothing is assumed about the *external world*; that is why Fictionalism tries to arrive at the knowledge of it. But the minds of other people are themselves a portion of the external world, for they are "external" to the solipsistic mind just as any other "physical" portion of the "external world," in the terminology of Russell; or they are as much a "part" of the "public common world" as any of its other "physical" portions, in the language of Stace. If this is so, then it appears that the success of Fictionalism in arriving at its knowledge of the "external world" depends upon the presupposition it makes about it. In other words, the "external world" is arrived at by means of a portion of the "external world." No doubt, it finds the "black cat in a dark room" because it has put it there in the first place. Therefore, it behooves us to investigate the reasoning employed in the establishment of the knowledge of other minds.

How does Fictionalism arrive at the other minds beginning only from the percepts of the solitary mind? Obviously by inference from analogy. The solitary mind groups its percepts into regions, each with a center, and distinguishes them by label. One group it calls "its own body" and other similar groups it calls the "bodies of others." But at this stage these groups of presentations are merely perceptual and have no character of externality as far as the solitary mind is concerned. It is true that the groups of presentations are external to each other, but only in the sense that two objects given at the same time in one

visual field are external to each other. In the language of Russell their externality is in *private space* and not in the space of perspective, for the space of perspective is yet to be constructed. With the group of presentations called *its body* the solitary mind associates another group of presentations called *its mind*, for the mind is nothing more than a correlation of the perceptual acts or activities which are given, such as perceiving, feeling, thinking, willing, etc. Now, granting that from the association of the "body" of the solitary mind with its perceptual activities we may infer that the "bodies of others" can be associated with analogous perceptual activities, still we cannot attribute externality to groups of presentations called "bodies of others" associated with their perceptual activities. They are within the perceptual world of the solitary mind. Let us extend the argument further. Let us grant that the solitary mind—the phrase "solitary person" would have been less confusing for our present purpose—infers the "minds of others" by analogy with its own, still there is no character of externality to be attributed to such "minds of others." Therefore, the "minds of others" cannot be of material use for the establishment of knowledge of the external world. That is to say, the "other minds" cannot be a stage in arriving at the *external world*. It seems to me that Fictionalism is committed to the assumption that the "other minds" which it finds, so it claims, are *external* in the sense of "being in the space of perspectives." This is a gratuitous assumption, as we have seen. Therefore, in order to arrive at the *external world* Fictionalism must assume that the "other minds" are *external* in the same sense that the "external world" is; in so doing it is arguing *per petitio*.

It appears, then, that there are two alternatives open to Fictionalism: either externality must be presupposed, thus committing the fallacy of *petitio principii*, or externality is not presupposed, in which case the solitary mind cannot get out of its private world. Let us consider the second of these alternatives. If the solitary mind does not presuppose externality, then all its knowledge will be of a private character. Therefore, any assumption of externality is gratuitous and must be avoided if the theory is to be a logical one. In being *solipsistic without being able to escape its own solipsism*, Fictionalism stands condemned in the very words of Stace as "a final and crushing solipsism

from which there would be no escape."² It is true that Stace and Russell attempted to escape from it by the use of inference, which by the way has only a probability character and makes the assumption of externality. We have made this point sufficiently clear, I think. From solipsism we cannot arrive at the "external world."

If the character of externality must be presupposed, then it is not true that the real beginning is simply the solipsistic position, as Stace assumes. There must be an initial beginning of externality upon which to base the construction of the "external world." A construction, as we have seen, cannot be made without materials for it. Therefore, if externality is to be found in our later constructions, then a *minimum externality* must be presupposed. The assumption of externality has been surreptitiously made by Fictionalism. What is objectionable in Fictionalism is not that this assumption is made but that this assumption, in spite of being made, is apparently denied. Fictionalism, I think, would not be objectionable on the ground that it makes the assumption of externality, if this assumption were admitted; otherwise, it is objectionable. Stace does not do this: Hobson is non-committal; and Russell seems to admit the assumption in the casual theory of perception. But what is not clear in Russell's position is the place assigned to the minimum externality which must be presupposed with the given, for he claims that the "external world" is a construction.

It seems at first blush that this necessity for a minimum externality is satisfied by the casual theory of perception which Russell grafts onto his Fictionalism. This is not so, for the reason that the casual theory of perception is a theory and therefore can have only a probability value, whereas the necessity for a minimum externality must be as primitive and as unsophisticated as the percepts of the given, otherwise we cannot have a necessary inference as to the externality of the "external world." Moreover, the minimum externality from which the externality of the later constructions must be constructed must be part of the given and not supplied by a theory because there is nothing from which it can be inferred. The case of inferring the "external world" from the bare given, which Stace claims as impossible and Russell holds as logically untenable, is the same as

² Walter Terrence Stace, *op. cit.*, p. 197.

the case of supplying externality by means of a theory. Furthermore, if externality is not assumed with the given but supplied by a theory then it is not true that the beginnings of knowledge, as Fictionalism claims, are only the facts of the senses and the laws of logic, for externality is obviously neither one of these. Therefore, externality must be assumed with the given. Insofar as the above types of Fictionalism are concerned this requirement has not been satisfied. I think if Fictionalism is to be saved, assuming that it is foredoomed by the fallacy of *petitio* which it is shown to have committed, it must be modified along the line of arguments I have indicated. The actual modification is not our concern here.

The next problem to be considered is whether or not Fictionalism is contradictory. This problem resolves itself into two questions: (1) Are the explicit parts of the theory of Fictionalism contradictory? (2) Are the implications of the theory of Fictionalism contradictory? On the whole, it cannot be demonstrated that Fictionalism is not contradictory, because that would require the investigation of all the implications of the theory, which is impossible because they are infinite in number. The assertion that the theory of Fictionalism is contradictory requires an affirmative answer to either or both of the above problems. An affirmative answer to the first question requires a detailed examination of the explicit parts of Fictionalism. I think, by and large, the explicit parts of Fictionalism are not contradictory as our discussion has shown. The second problem brings us to the consideration of the implications of Fictionalism which we divide into (a) unproved assumptions and (b) verifiable implications. In the following section we shall deal with the unproved assumptions. In the fourth section we shall take up the discussion of the verifiable implications.

3. *Unproved Assumptions of Fictionalism*

If the theory of Fictionalism is logically tenable, it must not only be consistent but must also admit the smallest number of assumptions possible. That any theory must make some assumptions is undeniable. But a good theory is one which requires the smallest number of assumptions. To this problem we shall now direct our attention.

(1) We have already shown that a minimum externality must be presupposed with the given. This minimum externality

should have the character of "givenness" of the primitive, unsophisticated data if we are to admit externality in our later constructions. According to the line of reasoning employed by Fictionalism itself, no construction is possible without materials for it. Therefore, the construction of externality for later constructions is not an exception to this principle.

(2) It is clear right from the start of our exposition of Fictionalism that the theory in question presupposes that something given is the starting point of knowledge. But this is a verbal platitude. What is actually meant is that these primitive data of knowledge are the facts of the senses and the laws of logic. If knowledge, taken at its intellectual level, means the class of all true judgments, in the different senses in which different judgments can be true, then the laws of logic are presupposed since logic applies to all judgments. It follows from this that Fictionalism must presuppose the laws of logic as a part of the starting point of knowledge. What the laws of logic are is a logical question and is outside of our main consideration here. It is sufficient to indicate therefore that Fictionalism is a theory which is no exception to the operation of the above mentioned principle, hence it must presuppose the laws of logic.

(3) Fictionalism presupposes that there is nothing as indubitable as the facts of perception. It further presupposes that if knowledge must have a minimum starting point, that is, a starting point which is unanalyzable, then this starting point must be the facts of the senses. In other words, it holds the principle of analysis in so far as it does not take as the last elements those which are analyzable into simpler elements. This is done in order to purify the materials of its later constructions, so as to avoid adulterating them with unanalyzed prejudice and unreasoned belief. There is no justification for this assumption. The most that we can hope for it is that it should lead to probable results and its implications must not contradict the facts of experience. It is therefore accepted without further arguments. Some objections to this assumption are possible, but, as Russell has shown, those objections are based upon unanalyzed metaphysical theories or else upon the very facts of perception. In the first case, there is nothing parallel to the facts of perception on which to base the metaphysical theories. Furthermore, metaphysical theories when analyzed will lead to the facts of the

senses; therefore, to hold the metaphysical theories in their un-analyzed form is to be led astray by unreasoned prejudice. Secondly, if the objections to this assumption are based upon the facts of perception then the assumption objected to is presupposed in the objections themselves. Therefore, the assumption should be made.

(4) It is further assumed by Fictionalism that no construction is possible without materials for it. Thus, if the laws of logic show the method and process of construction, then the facts of perception supply the materials for such construction. This assumption is important because it prohibits us from making construction without any materials. It is one of the maxims which we have inherited from the Scholastics: "*ex nihilo nihil fit*"—out of nothing, nothing comes. This is a methodological principle which has the same value as Occam's razor. Again, there is no justification for this presupposition except its pragmatic value in purifying our thinking and purging our thoughts of unwarranted elements.

As far as I can make out from the theory of Fictionalism, the above presuppositions are assumed not only for logical but also for practical purposes. They are necessary to explain the epistemological phenomena with which the theory deals. Are they contradictory? I do not think that the above implications which are assumed contradict each other. I fail to detect any contradiction either apparent or real in the above presuppositions. They are presupposed because they are either so obvious that nobody doubts them or unverifiable and therefore only capable of being assumed.

4. Verifiable Implications

There are two questions raised with regard to the verifiable implications of Fictionalism, namely (1) do they contradict themselves and the unproved assumptions? and (2) are they verifiable? To avoid repetition we shall answer these two questions as we enumerate the verifiable implications. Let us now attempt to state these implications.

(1) One of the implications of Fictionalism is the possibility of a technique of verification of any theory. From the theory of Fictionalism follows the proposition that verification is possible on the basis of perception. I think this possibility of

verification has been sufficiently shown in our discussion of the subject in the previous pages. In addition to what we have already said, we can say that since perceptual judgments are the only ones we are sure of, verification of any theory means the addition of new perceptual judgments to the class of perceptual judgments which gave rise to the theory in question in the first place. If this is what is spoken of as confirmation of a theory then confirmation can be defined as the enlarging of the membership of the class of perceptual judgments actually experienced in order to include new facts of perception. The question now is, "Is this technique of verification itself verifiable?" I think that verification as employed in science is in accordance with the interpretation given by Fictionalism. In other words, the facts of the epistemological phenomenon of verification can be best explained by the theory of Fictionalism. The statement that verification is made through the senses is not gainsaid by the observed facts in verification. The employment of instruments to aid the senses is not an objection to this statement. This implication is therefore confirmed by the facts of experience.

(2) Another implication of the theory is that knowledge must grow. If knowledge is defined as the class of all true judgments, probable theories, and useful or pragmatical constructions, then the theory implies that the membership of such a class must increase when the totality of judgments of perception increases, probable theories multiply in number, and useful constructs are continually invented. Is this implication confirmable? I think that the history of knowledge is a history of the growth of knowledge in the above sense. This statement is a pleasant platitude which need hardly be discussed. Nevertheless, since it is an important implication from the theory it must be pointed out as confirmed by the facts of experience.

(3) Another implication is that the probability value of a theory may change according to the totality of relevant judgments of perception. According to an interpretation consistent with the theory of Fictionalism, a probable theory is a highly abstract construct reducible to a number of judgments some of which are known to be true judgments of perception and some are not known to be true. The probability of such a theory is the ratio between actual judgments and the totality of relevant judgments. If verification increases the number of true judg-

ment of perceptions while the totality of relevant judgments remains unchanged, or if subsequent analysis increases the totality of relevant judgments while the number of true judgments of perception remains the same, then it follows that the ratio of actual judgments of perception to the totality of relevant judgments involved in the theory in question varies accordingly. Therefore, the probability value of the theory which depends upon this ratio must vary. If this is so then it is possible to find an hypothesis at one time having a given probability value and at other times either a higher or a lower value than the given one. Is this confirmed by epistemological facts? I think that there are examples in the field of science to confirm this statement, as Hobson has sufficiently informed us. As a matter of fact the history of scientific hypotheses is almost a history of the variation of their probability values. The case of Newton's law of gravitation is in point. The increasing value in the probability of Relativity theory is another instance of the confirmation of this implication of Fictionalism. In other words this implication stands confirmed by the facts in the field of science.

(4) Still another implication of Fictionalism is the proposition that the theory of truth is replaced by a theory of probability in the inferential portion of knowledge. This means that, with only the facts of perception considered as the indubitable materials with which humanity builds up its knowledge, it follows that the later portions of knowledge beyond judgments of perception, i.e. judgments which result from inference, cannot have the character which these judgments of perception possess. If the character of conformity to facts is attributed to what may be called "true" judgments on the level of perception, then the later accretions of knowledge beyond this level can either be reduced to these judgments or else to those which have only a probable character—a view which we have treated previously. In this sense the theory of probability replaces the theory of truth. This is not meant to deny that judgments of perceptions are "true" in the sense indicated. It simply asserts that the later judgments beyond this level cannot be spoken of as "true" in the same sense. Judgments of inference can only be more or less probable.

That the theory of probability replaces the theory of truth as above defined is confirmed, I think, by the growth of knowl-

edge in science. In the field of science a theory is only more or less probable and not true or false. This fact has been sufficiently emphasized by Hobson and Russell. Stace, however, uses the word "truth," though he means the same as probability, for scientific hypotheses and theories. I also think that in the realm of the judgments of perceptions, i.e. elementary judgments, science admits only *elementary truth* without the concomitant *falsehood*. Illusions of the senses are explained by a more or less complicated theory, which is then only more or less probable and not to be considered as an instance of a false elementary judgment. Stace and Russell have insisted on this point. In other words, the illusions of the senses are not admitted as *elementary judgments with elementary falsehood*, but as judgments or hypotheses which are reducible, though not completely, to elementary judgments with elementary truth. Let us take the case of the "stick partly immersed in a glass half full of water." The judgment "the stick is bent" is not a judgment of perception but an hypothesis more or less probable. This hypothesis is reducible to the statements about the laws of the refraction of light in air and water, the causal theory of light, the laws of logic, etc. But what is to be admitted as a judgment of perception with elementary truth is that there is a certain brown patch of color of a given geometrical shape, that is, described as best lines, associated with another patch of color, usually called colorless, and generally named "water", etc. The interpretation of this series of presentations is summed in the hypothesis "the stick is bent when partly immersed in a glass half full of water." This important fact in the epistemological aspect of science has not yet been generally appreciated; if noted it has not been understood to have any bearing on the theory of truth. I think, however, that men of science realize this fact to be the experience in scientific research, which amounts to saying that this implication of Fictionalism is confirmed by facts.

(5) Fictionalism further implies that a construction will do what an "inferred" entity does and that there is no reason for choosing the "inferred" entity in preference to the construction. In fact, it is claimed by some Fictionalists, e.g., Russell, that the advantage of a construction is that it saves us from the embarrassment of being wrong if it turns out

that the "inferred" entity does not exist. A construction need not be regarded as existent, like an "inferred" entity. On this very important implication of Fictionalism, Russell and Hobson, on one hand, and Stace, on the other, differ in their interpretations. Stace holds that common sense is right in constructing the "entity" as a convenient fiction to co-ordinate man's experiences and further asserts that the existence of an "unperceived entity" means an impossible antecedent which if confirmed will yield the consequent. But the antecedent cannot be confirmed. Thus the existence of "atoms" means for Stace "If. . . , then we should perceive atoms.'" ⁸³ This means further that the atom is given an unperceived existence. On the other hand, Russell thinks that common sense is wrong in attributing an unperceived existence to what is not thus perceived and holds, with Hobson, that an unperceived existence need not be attributed to a construction. Russell and Hobson further hold that a construction does all that is required of the unperceived entity. Moreover, Hobson asserts, in using constructs science has nothing to say as to the nature of the "inferred entity," that is to say, science has no bearing on the conflict of *mentalism and materialism*. It appears that the difference is only a matter of interpretation. The explanation of this difference is that Russell and Hobson are mathematicians and think in terms of "classes" and "correlation," while Stace is not a professional mathematician, as he confesses, and thinks in terms of "entity" with a meaning modified to suit his Fictionalism. As a consequence of this difference in temper, Stace speaks of constructive existence and asserts that much of known existence is constructive, while Russell warns us against the pitfall of attributing to or demanding of a construction a kind of existence, and Hobson insists on the descriptive character of science as manifested in its schematic constructions called hypotheses, or theories, or laws. This may be an important point of difference, for one of these opinions discredits and the other confirms the common-sense point of view.

The implication that a construction does what an "entity" can do, I am not prepared to admit as confirmed. It is yet in the process of confirmation. Mathematically and logically,

⁸³ Walter Terrence Stace, *op. cit.*, p. 440.

i.e. symbolically, this implication is admissible. As a matter of fact the manipulation of the symbols supposedly for "entities" in mathematical propositions proves that the symbols for "constructions," i.e. classes—incomplete symbols in the language of Russell—better perform the functions for which the symbols are invented. But that is all in the realms of symbols. In other words, this implication amounts to the following: "constructions will replace 'entities' and in time to come we shall speak not of 'entities' but of 'constructions'; furthermore, symbolically we shall use the more convenient symbols for 'classes' in place of the symbols for 'entities.'" This statement is more or less vague, for an epistemological prediction cannot be as precise as a mathematical or a physical prediction.

(6) Fictionalism also implies that the problem as to the existence of "entities" requires a solution which takes us beyond perception. Due to the fact that the apparatus and materials which we have for solving any problem are those with which perception supplies us, such a problem as that of the existence of "entities" remains insoluble. If a construction which is substituted for an "entity" does all that the entity is supposed to do (and the contradiction need not exist), then to ask whether a construction exists or does not exist is meaningless. Thus the theory avoids many of what may be called pseudo-problems, problems which are not only insoluble but meaningless. In the light of Fictionalism, the problems, when analyzed, will be found not to be problems at all. This implication is important because by means of it we shall avoid many of the meaningless problems over which many philosophers have wasted their talents. Is this implication verifiable? It can be interpreted to mean that in the future philosophers will not waste their efforts on the problem of the "existence" of "entities" since the latter are replaced by "constructions." When constructions are admitted to be the legitimate subject of knowledge the question about "existence" will be replaced by the question of the "validity" or "probability" or "applicability" of constructions. Whether this will happen or not remains to be seen.

It is impossible to run the gamut of implications of a theory as wide as Fictionalism. The above implications suf-

fice for our present purpose. The question which must now be asked is, "Do these implications contradict themselves or do they lead to contradictory results?" I do not think that they are contradictory. It cannot, however, be demonstrated that they are not contradictory in the technical sense of the word. As far as I can make out, it is possible to hold all of the above implications without any consciousness of logical inconsistency. I, therefore, hold that the implications of Fictionalism are probably consistent. To the question, "Do the verifiable implications contradict the unproved assumptions?" The same answer as the above can be given. On the whole, therefore, Fictionalism is not contradictory and on the ground of coherence the Theory of Fictionalism is logically tenable. It has, then, one of the earmarks of a good scientific hypothesis, even according to the criteria imposed by Fictionalism itself.

Generally speaking, therefore, there are no facts of experience which contradict the implications of Fictionalism. A "statement of fact" which apparently contradicts them can almost invariably be further analyzed into genuine judgments of perceptions which do not contradict these implications. It seems that on the basis of the above discussion Fictionalism is not only verifiable but also has been relatively verified. Some of its implications still remain to be verified. This is the most that we can say for the theory in the line of verification.

CONCLUSION ⁸⁴

What can we therefore say as to the probability of Fictionalism? We can say that it is logically consistent but for the changes we have indicated. Its presuppositions are few and are of practical necessity for knowledge. The confirmation of some of its implications not only adds to the probability of the inferential part of Fictionalism but also proves the pragmatic value of its presuppositions. Fictionalism covers the widest range of epistemological phenomena. It is the simplest theory in the field of epistemology. Therefore, according to the theory of Fictionalism itself, its inferential part is highly probable. Just how much probability is to be given to it remains as a problem for the future. In our terminology, therefore, Fictionalism

⁸⁴ This portion is the concluding part of "Chapter VII: Conclusion" of the original thesis.

is pragmatic. Whether the Fictionalists will recognize this or not remains to be seen.

We have shown that complete and incomplete reducibility distinguished a "construct" from an "inferred entity." A "construct" is completely reducible to its component judgments while an "inferred entity" is not completely reducible. We have also shown that a symbol for a construct can take the place of a symbol for an inferred entity. The problem now is, "Is there a criterion of complete reducibility by which we can determine whether a symbol is to be treated as a construct or as an inferred entity?" Let us call a symbol which can be interpreted as a construct or an inferred entity a suppositional symbol.⁸⁰ There is nothing *prima-facie* in a suppositional symbol which will determine whether it is completely reducible or not. The only empirical criterion, therefore, is to attempt actually to reduce a suppositional symbol and the end-result of this process of reduction will determine whether it is completely reducible or not. As a matter of strict definition a suppositional symbol in itself is neither a "construct" nor an "inferred entity." But a suppositional symbol can be interpreted either as a "construct" or as an "inferred entity." This brings us to the question of whether there is any essential difference in the two interpretations.

A problem of interpretation of a suppositional symbol which first presents itself is that connected with prediction. Is there an essential difference between interpreting a suppositional symbol as a construct and interpreting it as an inferred entity with regard to the problem of prediction? It may be argued, and rightly so, that if a symbol is interpreted as an "inferred entity" then prediction means the assertion of some aspects of an "inferred entity" which are not yet verified. In other words, the interpreter of such a symbol has a mental picture, so to say, and his prediction means the assertion of those aspects of the picture of the "entity" which are not yet known. Such predictions depend upon the "inspiration" of the interpreter, if we may use the word. This would mean that he would agree to the assertion that the suppositional symbol which he is interpreting as descriptive of an "inferred entity" would mean all that is verifiable and *something more* besides—*something* which has

⁸⁰ I owe this term to Professor A. Cornelius Benjamin; see his *Logical Structure of Science* (London, K. Paul, Trench, Trubner and Co., 1936). p. 200.

an absolute existence, independent of the knowing process of the interpreter. It is on the basis of this *something more* that he makes his prediction. The weight of the argument in favor of an "inferred entity" seems to be on the assertion that prediction is possible only because of the "inferred entity."

A Fictionalist, on the other hand, argues that prediction is made not on the basis of "inspiration" but of "deduction" from the group of propositions constituting the construct. It seems that given a group of propositions, or of percepts, it is possible to deduce from their relations what other propositions, or percepts, are compatible with them. In this case the deduced propositions are the Fictionalist's predictions. In other words, the question is really whether prediction is made strictly from the already known propositions, according to Fictionalism, or is inspirational and made not merely from the already known propositions, according to the inferential point of view. Thus we see that according to both interpretations of a suppositional symbol prediction is possible; the only difference is that one is strictly deductive and avoids any assumption of the existence of an "entity" while the other is inspirational and asserts that such an entity" is necessary for making predictions. In other words, it is a matter of temperament whether one approaches a suppositional symbol with the Fictionalist's interpretation or with that of an "inferred entity." Thus, we see that with respect to the problem of prediction they have no essential difference. Both make predictions possible, which is an essential point in so far as scientific knowledge is concerned.

In what then do they essentially differ? I think that their difference is in their methods of approach. We have seen that the interpretation in favor of "inferred entities must assume the existence of such "entities" and therefore whether such entities exist or not is, in this interpretation, a legitimate question. But since all means of verification give knowledge only of what can be perceived, which, by hypothesis, is not yet the "inferred entity," the problem whether the "inferred entity" exists or not is an insoluble question. On the other hand, Fictionalism claims that the interpretation of a suppositional symbol in terms of a "construct" does not assume the existence of something, as an entity, to which the construct must refer. Therefore, if there is no such "entity" the possibility of being wrong in assuming that there is such an "entity" is avoided,

whereas if there is an "entity" it is still not wrong to interpret the symbol as a construct because this interpretation does not deny the existence of the "entity" but simply refrains from asserting it. Furthermore, since all empirical means of knowing give only perceptual knowledge and what can be deduced from it, that is to say, no knowledge of "inferred entity" can be had by empirical process of knowing, knowledge of an "inferred entity" must be by means which are not empirical. If we have knowledge of an "entity" it must be *a priori*. The *a priori* is an assumption. Therefore, as Fictionalism claims, to refrain from making this assumption is to be on the safe side of methodology.

I think the whole lesson which Fictionalism teaches is the fact that sound methodology demands economy in the number of assumptions to be made in the beginning of the process of knowing. In fact, if Fictionalism is considered as a method of approach it is a method which makes capital use of Occam's razor. Fictionalism has found that the use of "constructs" in place of "inferred entities" wherever possible in the phenomenon of knowing best applies the above methodological maxims. From the above discussion it follows that Fictionalist will first approach a suppositional symbol with an interpretation peculiar to his own school of thought and if by reduction of the suppositional symbol to its elementary propositions he finds that the symbol is not completely reducible then it may be interpreted as an "inferred entity"; otherwise, it must be interpreted as a "construct." If we then adopt a certain convention of usage such as using a single letter symbol, like *a*, *b*, *c*, for an "inferred entity" and the symbol for classes, such as " $\hat{x} (\phi x)$," " $\hat{y} (\phi y)$," or " $\hat{z} (\phi z)$ " for a "construct," we can incorporate the results of the process of reduction of the suppositional symbol in this new symbolism. Then for purposes of communicating the results of the process of reduction of a suppositional symbol, an "inferred entity" can be symbolically distinguished from a "construct." In this case a symbol will be called suppositional when we have not yet performed the process of reduction, whereas after the process of reduction has been terminated the original suppositional symbol becomes either a symbol for a "construct" or a symbol for an "inferred entity." Therefore, a symbol called "suppositional" is a pre-reduction symbol, whereas symbols for "constructs" or "inferred entities" are post-reduction symbols.

Regarding the theory of truth, there is a certain confusion which must be clarified. While admitting the variations in the meanings of "truth" when applied to judgments of perception, judgments of things, judgments of constructions involving inference, Stace uses the same term "truth" throughout. It is true that he speaks of the probability of the inference as to other people's minds. Hobson speaks of schematic descriptions, in the form of classificatory schemes and scientific hypotheses or theories, as constructions to which he applies the term "probability." For him an hypothesis is only more or less probable. He sometimes speaks of the applicability of an hypothesis. Russell uses "truth" for elementary propositions and "second order truth" for general propositions. Like Stace, he uses the term "probability" for inference. He uses no term to indicate the "truth" of a construction, either of the first type or of higher types. Our choice of "second order truth" to apply to constructs of the first type is based upon Russell's application of "second order truth" to general propositions.

In view of this confusion, it is, I think, necessary to specify what terms should be used for the different kinds of judgments. On the basis of our previous discussion it appears that "truth" must be used in connection with elementary propositions. "Second order truth," following Russell, should be used in the case of general propositions. Since constructions of the first type, i.e. the type where no inference is involved, fall under the class of general propositions, "second order truth" can be applied to them. Hobson's classificatory schemes on the level of general propositions which are completely reducible to the component judgments of perceptions fall under this category and must be considered as having "second order truth." "Probability" should be applied to inference. Both Russell and Stace admit this when they speak of the probability of the inference as to other people's minds and percepts. Hobson, on the other hand, speaks of the probability of a prediction from an hypothesis and yet he considers hypotheses and theories as constructs. This brings us to the type of constructs which uses results of inference as materials. The probability character attributable to this type of constructs is due to the results of inference utilized in it. Thus Hobson can speak of the probability of an hypothesis, in spite of the fact that he calls an hypothesis a construct. If this type of constructs is reducible to its component elements which are

partly inferential and partly perceptual, then it is misleading to apply the term "probability" to it. I propose the term "pragmaticity" to be applied to this type of constructions in order to differentiate it from that type of constructions which has "second order truth" and from inference which has "probability."

What would then be gained if we adopt the different terms we have suggested? First, we shall incorporate in our terminology the hierarchy of "truths" which our discussion forces us to recognize by not calling them by the same name. Secondly, we shall avoid the confusion of thought from which the types of Fictionalism which we have examined suffer. We shall proceed to justify the above contentions.

If "truth" defined as "correspondence" is to be applied to elementary propositions, then strictly speaking propositions which are not elementary such as general propositions, inferential theories, or constructs cannot be "true" or "false," since they have nothing with which they can correspond. Obviously, a different term must be applied for these latter kinds of propositions if we are to avoid confusion of thought.

If "truth" is adopted to elementary propositions then what may be parallel in the case of general propositions to this character of elementary judgments must be given another name. Since general propositions are reducible to elementary propositions the *truth* of general propositions must be reducible to the "truth" of the elementary propositions. I think the name "second order truth" is justly applied to general propositions. Adopting different names for different things, as in this case, is only adding clarity to our thinking.

Obviously, to the types of character of elementary and general propositions which are called "truth" and "second order truth" respectively there corresponds a type in the case of inferential hypotheses which cannot be designated by either of the above names. To this character of inferential hypothesis we have given the name "probability." "Probability" is not synonymous with "truth" or "second order truth." Probability is a character possessed only by inference. Probability does not mean direct correspondence as in the "truth" of elementary propositions, because an inferred entity is not directly perceived, so that, by hypothesis, there could not be a directly experientiable correspondence between an inference and an "entity." There

is still the idea of "correspondence" even in the case of probability but its difference from the "correspondence" involved in "truth" (of elementary propositions) consists in the fact that the referent of the symbol is not directly experienced. Probability does not mean "second order truth" because an inference is not completely reducible to elementary propositions, which it should be if an inference has "second order truth." In applying probability, therefore, to inference we are incorporating into our nomenclature the difference in the types of character of the three kinds of propositions so far named.

If we include in our consideration the type of judgments about "constructs"⁸⁶ of high level then the differentiation must still hold between the four types of judgments hitherto considered. It is obvious that a construct of a high level is not completely reducible to elementary propositions, because of the inferential propositions involved in it. In this case it cannot possess "second order truth" or "second order falsehood." It is not a judgment of perception, since it is a highly sophisticated aspect of knowledge; therefore, it cannot have "truth" or "falsehood." Since it is a combination of elementary propositions and inferential propositions, it obviously has no "entity" with which it can indirectly correspond; therefore, to apply "probability" to the whole of the construct is misleading. It is for this reason that I propose the name "pragmaticality." It is true that within the construct there are some inferences and these inferences have an indirect confirmity with some entities. It is also meaningful to say that elementary propositions conform with the percepts. But their combination cannot posit an entity with which the construct can conform, for that would be a fallacy of composition. To speak of "probability" in connection with this type of construct is to take account only of its inferential part. To speak of "second order truth" in this connection is to reckon only with the combination of elementary propositions that forms a part of the construct. To speak of "truth" is to consider only the elementary propositions which the construct involves, but a construct is not an elementary proposition. Therefore, we have to seek for another name. "Pragmaticality," is, I think, appropriate, since it has been defined in such a way

⁸⁶ As I have already indicated, a construct of the lowest type can be treated as a general proposition; it is not therefore our concern here. It should be treated in its proper place.

as to accommodate "probability, serviceability, applicability, epistemological necessity, etc."

From the above discussion, we see that the reason why we cannot adopt a single pair of terms, such as "truth" and "falsehood," to all these different judgments is the recognition of a hierarchy of judgments. Thus elementary propositions belong to the first type of the hierarchy, general propositions to the second type, inferential propositions to the third type, and constructs of high level to the fourth type, and so on. There is a one to one correspondence between a "hierarchy of *truths*" and a "hierarchy of judgments." If the above distinction in terminology is adopted we may hope to rectify the confusion of thought in Fictionalism's *theory of truth*.

